UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
CARIBBEAN ENVIRONMENTAL PROTECTION DIVISION
CITY VIEW PLAZA, SUITE 7000
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GUAYNABO, PR 00968-8069

CERTIFIED MAIL /RETURN RECEIPT REQUESTED MAY 15 2017
Article Number: 7015 0920 0000 8688 5092

Mr. Alvin E. Crespo
Director
Environmental Health and Safety
Bristol-Myers Squibb Manufacturing Company
Humacao Operations
P.O. Box 609
Humacao, Puerto Rico, 00792-1255

Re: Technical Review of the January 6, 2017 On-site Surface Soil Sampling and Analysis Plan for the Bristol-Myers Squibb Manufacturing Company, Humacao, Puerto
EPA ID Number: PRD 090021056

Dear Mr. Crespo:

The United States Environmental Protection Agency-Region 2 (EPA) has reviewed the January 6, 2017 On-site Surface Soil Sampling and Analysis Plan (Report), submitted by Bristol-Myers Squibb Manufacturing Company (BMSMC) for its facility in Humacao, Puerto Rico. Enclosed are the EPA's comments on the Report. Please provide your response to the enclosed comments within 60 days of receipt of this letter. If you have any questions regarding this correspondence, please contact Socorro Martinez of my staff at (787) 977-5886 or via email at martinez.socorro@epa.gov.

Sincerely,

Carmen R. Guerrero-Pérez
Director
Caribbean Environmental Protection Division

cc: Manuel O. Claudio Rodriguez, Manager,
Land Pollution Control Program, PREQ

Enclosure

Technical Review of the January 6, 2017 On-site Surface Soil Sampling and Analysis Plan for the Bristol-Myers Squibb Manufacturing Company, Humacao, Puerto
EPA ID Number: PRD 090021056

I. GENERAL COMMENTS

1. The On-site Surface Soil SAP indicates that BMSMC is proposing developing naturally occurring and anthropogenic background threshold values (BTVs) for the Former Brule Incinerator, FTF Area, and Building 5 Area using an arithmetic mean of contaminants detected from three background surface soil samples and the arithmetic mean of contaminants detected from each area (or SWMU). However USEPA recommends a minimum of ten samples be collected and utilized for background data sets and that BTVs be statistically developed per the *USEPA ProUCL Version 5.0.00 User Guide*. In addition, a source-area-specific 95% upper confidence level (UCL) on the mean concentration or a point-by-point comparison should be made to determine whether contaminants exceed background. Thus, an insufficient number of background and source-area-specific surface soil samples are currently proposed by BMSMC. The On-Site Surface Soil SAP should be revised accordingly.

II. SPECIFIC COMMENTS

Section 2.2 Background Surface Soil Samples, Page 3; Section 2.3 Former Brule Incinerator, Page 4; Section 2.4 Former Tank Farm Area; Section 2.5 Building 5 Area Page 6; Table 2 – Specific Compounds Analyzed and Reported by Method

2. The text and tables indicate that only benzo(a)pyrene and dibenz(a,h)anthracene will be included in the target compound list for SW-846 Method 8270D – Selective Ion Monitoring (SIM). Since BMSMC proposes collecting background data set and comparing to the site-specific surface soil results, it is recommended that BMSMC include all the polyaromatic hydrocarbons (PAHs) associated with this method to achieve the lowest possible reporting limits.

Also, 1,4-dioxane should be added to the target compound list for SW-846 Method 82700D-SIM. Although 1,4-dioxane was not detected above the screening levels in soils collected at the Former Brule Incinerator, FTF and Building 5 during the Phase 1 Release Assessment soil sampling, additional surface soil data confirming the absence/presence of 1,4-dioxane is recommended.

Section 2.2 Background Surface Soil Samples, Page 3

3. As indicated in General Comment No. 1, a minimum of ten surface soil samples should be collected to establish background surface soil concentrations (a.k.a., BTVs) per guidance provided in *USEPA ProUCL Version 5.0.00 User Guide*. Please revise the SAP accordingly.

Section 2.6 Quality Assurance/Quality Control, Page 7 and QAPP Worksheet #12:7: Measurement Performance Criteria – Metals by Method 010, 7471B, 7470A

4. Equipment blanks should be collected at a frequency of 1 per 20 samples with a minimum of one per day. The text of the SAP and this QAPP worksheet should be updated to reflect the appropriate frequency.

5. BMSMC proposes calculating an arithmetic mean for the BTVs and the source-area-specific concentrations to determine whether contaminant concentrations are above background values. However, this approach is not appropriate. BMSMC should calculate the BTVs in accordance with *USEPA ProUCL Version 5.0.00 User Guide.* In addition, BMSMC will need to compare soil sample results to the BTV. Alternatively BMSMC may calculate a 95% UCL for the mean concentration (with a minimum of 10 surface soil sample results) and compare it to the BTV.

6. For compounds that are considered to be anthropogenic rather than naturally occurring, a simple comparison of the BTV to sample result or 95% UCL on mean may not be sufficient to attribute the contaminant to background. Additional lines of evidence should be provided that demonstrates that this contaminant is not from former or current BMSMC operations at this facility.